

# Mineral Industry Surveys

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## COBALT IN MAY 2006

Preliminary data for 2005 and 2006 indicate that U.S. cobalt consumption during January through May 2006 was 4% higher than that during the first 5 months of 2005, according to the U.S. Geological Survey. The amount of cobalt contained in U.S. imports of cobalt metals and chemicals was 18% higher in January through April 2006 than that during the same period in 2005. The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals was 53% higher in January through April 2006 than that during the same period in 2005.

Platts Metals Week, are listed below.

<u>Date</u>	<u>Price range</u>
June 8	14.90-15.40
June 15	14.60-15.20
June 22	14.40-14.75
June 29	14.20-14.75
July 6	14.00-14.60
July 13	13.60-14.10

**Update**

Prices for electrolytic cobalt, in dollars per pound from

<u>Month</u>	<u>Average price</u>
June	14.90

TABLE 1  
U.S. REPORTED CONSUMPTION OF COBALT MATERIALS<sup>1</sup>

(Metric tons, contained cobalt)

Period	Metal <sup>2</sup>	Oxide and other chemical compounds <sup>3</sup>	Scrap	Total
2005:				
May	256	154	198	608
June	254	176	194	624
July	261	147	177	585
August	276	151	201	628
September	263	159	201	623
October	266	154	201	621
November	259	147	201	606
December	248	148	201	597
January-May <sup>r</sup>	1,350	785	965	3,090
January-December <sup>4</sup>	3,170	1,860	2,340	7,380
2006:				
January	312	149	185	647
February	298	151	185	635
March	307	153	185	646
April	289 <sup>r</sup>	146	185	620 <sup>r</sup>
May	310	160	185	655
January-May	1,520	760	927	3,200

<sup>r</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes metal powder.

<sup>3</sup>Data may include other cobalt materials.

<sup>4</sup>Data based on monthly reports.

TABLE 2  
U.S. REPORTED CONSUMPTION OF COBALT, BY END USE<sup>1</sup>

(Metric tons, contained cobalt)

End use	2005		2006	
	January- May	January- December <sup>2</sup>	May	January- May <sup>3</sup>
Steel	249 <sup>r</sup>	598	57	287
Superalloys	1,390	3,300	314	1,530
Magnetic alloys	95 <sup>r</sup>	235	26	124
Other alloys <sup>4</sup>	W	W	W	W
Cemented carbides <sup>5</sup>	319 <sup>r</sup>	762	61	309
Chemical and ceramic uses <sup>6</sup>	925 <sup>r</sup>	2,210	175	834
Miscellaneous and unspecified	113	271	23	114
Total	3,090 <sup>r</sup>	7,380	655	3,200

<sup>r</sup>Revised. W Withheld to avoid disclosing company proprietary data; included with

"Miscellaneous and unspecified."

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Data based on monthly reports.

<sup>3</sup>Includes revisions to prior months' data.

<sup>4</sup>Includes nonferrous alloys, welding materials, and wear-resistant alloys.

<sup>5</sup>Includes diamond tool matrices, cemented and sintered carbides, and cast carbide dies or parts.

<sup>6</sup>Includes catalysts, driers in paints or related usages, feed or nutritive additives, glass decolorizer, ground coat frit, pigments, and other uses.

TABLE 3  
U.S. REPORTED STOCKS OF COBALT MATERIALS<sup>1</sup>

(Metric tons, contained cobalt)

Period	Industry <sup>2</sup>				U.S. Government, metal <sup>5</sup>
	Metal <sup>3</sup>	Oxide and other chemical compounds <sup>4</sup>	Scrap	Total	
2005:					
May	351	199	89	639	2,180
June	347	186	79	611	2,070
July	370	201	87	658	1,930
August	341	191	102	634	1,870
September	353	187	98	638	1,810
October	340	180	94	615	1,670
November	326	182	91	599	1,560
December	330	179	87	596	1,550
2006:					
January	310	187	70	566	1,520
February	321	183	70	573	1,500
March	335	176	70	581	1,480
April	338	175	70	582	1,480
May	337	183	70	590	1,480

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Stocks reported by cobalt processors and consumers.

<sup>3</sup>Includes metal powder.

<sup>4</sup>Data may include other cobalt materials.

<sup>5</sup>Data from Defense National Stockpile Center. Includes material committed for sale pending shipment.

TABLE 4  
U.S. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY<sup>1</sup>

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Metals <sup>2</sup>		Oxides and hydroxides		Salts and compounds <sup>3</sup>		Total cobalt content for the month <sup>5</sup>	Cobalt content, year to date <sup>5, 6</sup>
	Quantity	Value <sup>4</sup>	Quantity	Value <sup>4</sup>	Quantity	Value <sup>4</sup>		
2005:								
April	818,000	\$29,800,000	75,100	\$1,950,000	98,600	\$1,230,000	907,000	3,590,000
May	885,000	29,900,000	87,600	2,570,000	173,000	1,660,000	1,000,000	4,580,000
June	904,000	30,100,000	91,600	2,620,000	187,000	2,050,000	1,030,000	5,620,000
July	712,000	22,600,000	119,000	2,920,000	120,000	1,130,000	835,000	6,450,000
August	829,000	23,900,000	82,500	2,210,000	150,000	1,690,000	946,000	7,400,000
September	846,000	26,800,000	113,000	2,770,000	167,000	1,400,000	980,000	8,380,000
October	846,000	26,500,000	111,000	2,610,000	237,000	2,640,000	1,010,000	9,390,000
November	971,000	28,300,000	116,000	2,790,000	158,000	1,840,000	1,120,000	10,500,000
December	379,000	11,000,000	108,000	2,380,000	271,000	2,850,000	555,000	11,100,000
January-April	2,980,000	113,000,000	481,000	14,300,000	734,000	9,510,000	3,590,000	XX
January-December	9,350,000	312,000,000	1,310,000	35,100,000	2,200,000	24,800,000	11,100,000	XX
2006:								
January	906,000	25,000,000	79,300	1,890,000	245,000	2,830,000	1,060,000	1,060,000
February	571,000	15,600,000	102,000	2,200,000	317,000	3,720,000	775,000	1,830,000
March	1,160,000	30,300,000	115,000	2,620,000	196,000	2,230,000	1,320,000	3,150,000
April:								
Australia	35,400	936,000	--	--	--	--	35,400	212,000
Belgium	6,910	295,000	39,800	969,000	3,200	29,200	36,400	214,000
Brazil	27,100	819,000	--	--	--	--	27,100	94,100
Canada	73,000	2,080,000	--	--	--	--	73,000	332,000
China	93,900	2,760,000	25,000	437,000	46,500	605,000	133,000	558,000
Congo (Kinshasa)	--	--	--	--	--	--	--	9,980
Cote d'Ivoire	--	--	--	--	--	--	--	2,590
Finland	4,290	162,000	36,000	772,000	31,200	408,000	44,600	273,000
France	1,260	79,400	6,140	263,000	--	--	5,680	15,600
Germany	716	47,300	972	80,500	--	--	1,420	10,500
India	--	--	--	--	68,400	385,000	18,500	47,400
Japan	14,000	545,000	40	3,400	--	--	14,100	68,600
Korea, Republic of	30	2,240	--	--	--	--	30	360
Kyrgyzstan	--	--	--	--	--	--	--	736
Morocco	20,000	535,000	--	--	--	--	20,000	100,000
Norway	234,000	6,480,000	--	--	--	--	234,000	969,000
Philippines	--	--	--	--	--	--	--	9,490
Russia	296,000	8,150,000	--	--	--	--	296,000	881,000
South Africa	500	14,200	--	--	--	--	500	22,500
Sweden	910	26,800	--	--	--	--	910	2,180
Taiwan	--	--	--	--	1,500	15,000	360	360
Uganda	39,600	1,040,000	--	--	--	--	39,600	59,400
United Kingdom	--	--	13,500	321,000	13,700	198,000	14,100	108,000
Zambia	94,500	2,570,000	--	--	--	--	94,500	250,000
Total	942,000	26,500,000	121,000	2,850,000	165,000	1,640,000	1,090,000	4,240,000
January-April	3,580,000	97,400,000	418,000	9,560,000	923,000	10,400,000	4,240,000	XX

XX Not applicable. -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Unwrought cobalt, excluding alloys; includes cobalt cathode and cobalt metal powder; may include intermediate products of cobalt metallurgy.

<sup>3</sup>Includes cobalt acetates, cobalt carbonates, cobalt chlorides, and cobalt sulfates.

<sup>4</sup>Customs value.

<sup>5</sup>Estimated from gross weights.

<sup>6</sup>May include revisions to prior months.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 5  
U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY <sup>1</sup>

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Unwrought cobalt alloys		Cobalt waste and scrap		Wrought cobalt and cobalt articles	
	Quantity	Value <sup>2</sup>	Quantity	Value <sup>2</sup>	Quantity	Value <sup>2</sup>
2005:						
April	1,080	\$65,100	47,400	\$571,000	31,700	\$2,030,000
May	11,100	348,000	75,400	845,000	21,300	1,550,000
June	500	33,000	120,000	1,060,000	20,500	1,540,000
July	1,990	95,700	17,100	276,000	27,300	1,730,000
August	675	42,800	91,800	856,000	12,400	1,060,000
September	23,500	711,000	42,700	495,000	18,300	1,150,000
October	10,700	372,000	88,200	594,000	18,700	1,520,000
November	10,100	410,000	100,000	1,090,000	36,900	2,190,000
December	35,200	350,000	53,600	363,000	21,700	1,510,000
January-April	7,370	324,000	225,000	2,300,000	78,700	5,430,000
January-December	101,000	2,690,000	815,000	7,880,000	256,000	17,700,000
2006:						
January	385	14,000	59,800	1,090,000	14,600	1,140,000
February	1,380	53,700	68,200	441,000	12,700	1,080,000
March	1,570	74,900	55,200	731,000	25,100	1,940,000
April:						
Belgium	--	--	--	--	150	9,300
Canada	--	--	--	--	2,400	420,000
China	--	--	--	--	110	3,120
France	--	--	--	--	3,610	240,000
Germany	--	--	--	--	1,220	80,600
Indonesia	--	--	--	--	13	4,390
Ireland	--	--	7,240	109,000	--	--
Japan	1,000	57,600	7,950	96,200	3,070	116,000
Taiwan	--	--	--	--	9	6,300
Tunisia	--	--	3,700	57,000	--	--
United Kingdom	54	3,150	10,200	159,000	16,100	937,000
Total	1,050	60,800	29,000	421,000	26,700	1,820,000
January-April	4,390	203,000	212,000	2,680,000	79,000	5,970,000

-- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Customs value.

Source: U.S. Census Bureau.

TABLE 6  
U.S. EXPORTS OF COBALT MATERIALS<sup>1</sup>

(Kilograms, gross weight of material, except as noted)

Period	Unwrought cobalt, powders, matte, waste and scrap <sup>2</sup>		Oxides and hydroxides		Salts and compounds <sup>3</sup>		Total cobalt content for the month <sup>5</sup>	Cobalt content, year to date <sup>5, 6</sup>
	Quantity	Value <sup>4</sup>	Quantity	Value <sup>4</sup>	Quantity	Value <sup>4</sup>		
2005:								
April	154,000	\$6,380,000	36,900	\$862,000	36,500	\$380,000	189,000	\$714,000
May	207,000	5,980,000	93,500	2,250,000	36,600	205,000	283,000	998,000
June	170,000	5,710,000	107,000	1,860,000	26,300	217,000	254,000	1,250,000
July	174,000	5,280,000	39,700	818,000	75,200	621,000	221,000	1,470,000
August	170,000	5,560,000	25,500	581,000	18,900	137,000	193,000	1,660,000
September	108,000	4,050,000	154,000	1,780,000	30,400	229,000	226,000	1,890,000
October	147,000	6,240,000	68,000	1,610,000	18,400	119,000	201,000	2,090,000
November	103,000	4,030,000	57,700	1,480,000	88,900	390,000	166,000	2,260,000
December	90,100	3,130,000	110,000	2,410,000	49,200	275,000	181,000	2,440,000
January-April	503,000	20,600,000	174,000	4,320,000	360,000	1,630,000	714,000	XX
January-December	1,670,000	60,600,000	829,000	17,100,000	704,000	3,820,000	2,440,000	XX
2006:								
January	96,100	3,850,000	108,000	2,610,000	51,500	317,000	187,000	187,000
February	96,200	3,960,000	91,800	2,170,000	43,400	308,000	173,000	359,000
March	232,000	9,530,000	93,800	2,030,000	76,300	518,000	318,000	678,000
April	326,000	12,700,000	123,000	2,710,000	19,900	177,000	419,000	1,100,000
January-April	750,000	30,100,000	417,000	9,520,000	191,000	1,320,000	1,100,000	XX

XX Not applicable.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>May include other intermediate products of cobalt metallurgy and unwrought cobalt alloys.

<sup>3</sup>Cobalt acetates and cobalt chlorides.

<sup>4</sup>Free alongside ship (f.a.s.) value.

<sup>5</sup>Estimated from gross weights.

<sup>6</sup>Year to date may include revisions to prior months.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 7  
U.S. EXPORTS OF WROUGHT COBALT, COBALT ORE, AND CONCENTRATES<sup>1</sup>

(Kilograms, gross weight of material, except as noted)

Period	Wrought cobalt and cobalt articles		Cobalt ore and concentrates	
	Quantity	Value <sup>2</sup>	Quantity	Value <sup>2</sup>
2005:				
April	184,000	\$6,530,000	33,000	\$818,000
May	129,000	6,080,000	49,200	1,300,000
June	230,000	9,230,000	36,200	1,200,000
July	224,000	8,410,000	--	--
August	213,000	7,950,000	242,000	1,870,000
September	147,000	6,370,000	139,000	1,720,000
October	222,000	8,360,000	41,800	1,050,000
November	216,000	8,370,000	--	--
December	204,000	8,800,000	69,200	562,000
January-April	750,000	28,300,000	151,000	4,420,000
January-December	2,340,000	91,800,000	729,000	12,100,000
2006:				
January	188,000	7,160,000	5,150	129,000
February	157,000	7,530,000	6,390	139,000
March	219,000	8,340,000	28,000	893,000
April	183,000	8,250,000	69,200	1,170,000
January-April	747,000	31,300,000	109,000	2,330,000

-- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Free alongside ship (f.a.s.) value.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.